FIRST M.Pharm. DEGREE EXAMINATION, SEPTEMBER 1991.

(Special Paper)

Specialisation A — Pharmaceutics

Paper IV — INDUSTRIAL PHARMACY

Time : Three hours. Maximum : 100 marks.

Answer any FOUR questions.

All questions carry equal marks.

1. Explain in detail the factors governing the stability of emulsions. Discuss the assessment of shelf-life of emulsion.

2. What are the incompatibility and instability problems associated with multi-component formulations. Explain the organic incompatibility with reference to multi-vitamin formulations.

3. Give an account of novel Drug delivery systems. Write a note on the evaluation of polymers used in Transdermal Therapeutic systems.

4. Explain First order and Pseudo First order reactions with suitable examples. What are the application of reaction kinetics to the evaluation of stability of drugs in formulations.

5. Name and briefly explain the different types of coating of tablets. Discuss the problems related to Bio-availability in case of different types of coating of tablets.

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NOVEMBER 1994

[ND 275]

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch I — Pharmaceutics

INDUSTRIAL PHARMACY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. (a) Give an account of the machinery, GMP and quality control tests involved in the manufacture of liquid formulations.

(b) Give the design and working of the equipment employed for the blister packing of tablets.

2. (a) Give an account of the sales forecasting and safety measures to be adopted in a formulation industry.

(b) What do you understand by the terms : Rheopexy, plug flow and psuedoplasticity? How do you determine the rheological parameters of a pseudoplastic material?

3. Write notes on :

(a) Sterilization indicators

(b) Sterilization using membrane filters

(c) Methods of expressing and finding out doses of radio pharmaceutical formulations and

(d) Pharmacopoeial examples of radiopharmaceuticals.

4. (a) Describe the composition, method of manufacture and quality control tests carried out on Hair dyes and Depilatories.

(b) Discuss the incompatibilities that could occur in the development of multivitamin formulations.

5. (a) Give an account of the various propellants employed in aerosal systems. Give their relative advantages, limitations and applications.

(b) Describe the biological factors affecting stability of drugs in formulations. Give the methods to be followed to prevent such biological degradation.

6. Write detailed notes on any THREE of the following :

(a) Criteria for selection and methods of evaluation of pharmaceutical packaging materials.

(b) Multiple-emulsions.

(c) Modern techniques employed for coating of tablets, granules and fine powders.

(d) Fluid bed dryer.

APRIL 1995

[SB 304]

M.Pharm. DEGREE EXAMINATION.

First Year

(New Regulations)

Branch I — Pharmaceutics

INDUSTRIAL PHARMACY

Time : Three hours. Maximum : 100 marks.

Answer any FOUR questions.

All questions carry equal marks.

1. (*a*) With regard to the establishment of a formulation production unit, discuss the structure and working of finance and material management departments.

(*b*) Describe the medical applications of radiopharmaceuticals.

2. (*a*) Give an account of the pharmacoporial specification, tests and standards for pharmaceutical packaging materials, containers and closures.

(*b*) Describe aerosol formulation and packaging for production of space sprays, surface coats and foams.

3. (*a*) Describe the design, working and maintenance of a modern rotary tablet machine.

(*b*) Discuss the physico-chemical factors that affect the stability of drugs in formulations. Suggest methods to prevent such degradations.

[SB 304]

4. Write notes on the following :

(*a*) Chilsonator

(*b*) Dry syrups

(*c*) Evaluation of pharmaceutical suspensions

(*d*) Quality control in the production of ophthalmic products.

5. (*a*) Give an account of the methods available for determining the surface area of powders.

(*b*) Write a note on radiation sterilization.

6. (*a*) Discuss the formulation, production and quality control testing of Nail polishes and Tooth pastes.

(*b*) Citing examples, write a note on the rationale to be adopted for drug combinations.

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[AK 305] **APRIL 1996**

M.Pharm. DEGREE EXAMINATION.

First Year

(New Regulations)

Branch I — Pharmaceutics

INDUSTRIAL PHARMACY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. (a) Discuss in detail the role of production manager in production planning and control in pharmaceutical industries.

(b) What are multiple emulsions? How are they identified? Explain how these systems can be used for making sustained action formulations.

2. (a) Discuss about the machineries developed recently for coating techniques in Tablet Technology.

(b) Discuss about sampling procedures for subjecting sterile preparations for test for sterility. Discuss about test for sterility for vial based injections and how the sterility is confirmed.

3. (a) Discuss about the formulation of tooth pastes. How are they being evaluated for their performance?

(b) Discuss about the various headings under which a radiopharmaceutical is explained in pharmacopoeial monographs and explain all the items. Outline the application of radiopharmaceuticals with examples.

4. (a) Discuss the operational details of a large scale horizontal type autoclave. What are sterilisation indicators ? Give examples and uses.

(b) Describe the principle of accelerated stability testing. Explain for such a test to solid dosage forms also.

5. (a) Discuss about two phase and three phase aerosol systems. Give examples of propellant systems. How is toxicity of propellant systems evaluated? Describe the methods of filling contents in aerosol packaging.

(b) Give the pharmacopoeial specification, tests and standards for rubber closures for vials.

6. (a) Discuss on safety measures and pollution control measures applicable to pharmaceutical industry.

(b) Explain how thixotropic coefficient of semisolid formulations is found out. What are the applications of such a study?

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[PK 201] **OCTOBER 1996**

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch I — Pharmaceutics

INDUSTRIAL PHARMACY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. (a) Give a detailed account of legal control, layout of building and safety measures to be adopted in Pharmaceutical Industry.

(b) Give an account of sales forecasting and production planning and management in Pharmaceutical Industry.

2. (a) How are particle size distribution of powders determined by sedimentation method and coulter counter method?

(b) What are the limitations of sedimentation method? How is particle size distribution represented?

3. Explain the following :

(a) Good manufacturing practice.

(b) Formulation of oral liquid multivitamin products.

(c) Quality control tests for tablets.

4. (a) Explain in detail the mechanism, merits and demerits of heat sterilization technique.

(b) How is heat sterilization process utilized for sterilizing injections? Comment on sterilization indicators.

5. (a) Explain the physical, chemical and biological factors that affect the stability of drugs.

(b) How can shelf life be determined by accelerated stability methods?

6. Give a brief account of :

(a) Cosmetic preparation for hair.

(b) Selection and evaluation of containers for pharmaceutical dosage forms.

MP253

APRIL 1997

M.Pharm. DEGREE EXAMINATION

(New Regulations)

First Year

Branch I - PHARMACEUTICS

Paper II - INDUSTRIAL PHARMACY

Time : Three hours Max. marks: 100

Answer any FOUR Questions

All questions carry equal marks

1. (a) Discuss in detail the role of a Materials Manager in production planning and control in pharmaceutical industries.

   (b) Give a brief account of sales forecasting and steps to be followed to increase sales in a pharmaceutical industry.

2. Explain the different methods employed for determining particle size distribution of powders.

3. (a) Explain the process of tablet manufacture.

   (b) Give a brief account of evaluation of tablet.

4. (a) Outline the various cold methods of sterilization by giving the precautions to be followed. What are the merits and demerits of this process?

   (b) Describe in detail about sterilization indicators.

5. What are the incompatibility and instability problems associated with multi-component formulations? Explain the organic incompatibilities with reference to multi vitamin formulations.

6. (a) What are multiple emulsions? How are they identified? Explain how these systems can be used for making sustained action formulation.

   (b) Explain the application of kinetic principles of stability testing of drugs.

MS 237

OCTOBER 1997

M.Pharm DEGREE EXAMINATION

(New Regulations)

First Year

Branch I - PHARMACEUTICS

Paper II - INDUSTRIAL PHARMACY

Time: Three hours Max. marks:100

Answer any FOUR questions

All questions carry equal marks

1. (a) Discuss about life cycle of a product in a market. Detail the techniques of sales forecasting. What is its importance in industry for new product development?

   (b) Explain the terms 'Base adsorption factor', 'Capsulable mix' in soft gelatin capsule technology. How are semisoli.. based soft gelatin capsules manufactured? Elaborate on newer applications of such capsules.

2. (a) Discuss with suitable examples the various formulation problems in manufacturing multivitamin products.

   (b) Discuss the method of performing dissolution test for solid dosage forms. Critically comment on the drawbacks in the dissolution test apparatus now used.

3. (a) Discuss about formulation of hair dyes and their evaluation.

   (b) Discuss about application of radio pharmaceuticals, method of handling radio pharmaceuticals, dose calculations and radiation hazards of radio pharmaceuticals.

4. (a) Discuss about cold sterilisation techniques and their importance and limitations.

   (b) Discuss about performance of stability testing of liquid formulations and coarse dispersions.

5. (a) Give the pharmacopoeial specification, tests and standards for plastic containers for intravenous fluids.

   (b) Outline the quality control tests performed for injections. Elaborate on 'LAL test'.

6. (a) Discuss the importance of particle size in aerosol formulation. Give an account of typical aerosol formulations available in the market. Discuss about the container, value and the propellant system used for aerosol packaging.

   (b) Describe how rheological study is helpful for quality control and performance of semi solid formulations.

[SV 269] APRIL 1998

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch I — Pharmaceutics

Paper II — INDUSTRIAL PHARMACY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. (a) Discuss in detail the role of a Finance Manager in planning and control in pharmaceutical industries.

(b) Give a brief account of safety measures to be followed in a pharmaceutical industry.

2. (a) Explain the methods of determination of the thixotropic co-efficient of non-Newtonian systems and give its significance.

(b) Describe the rheological properties of colloidal dispersions and suspensions.

3. Give the basic considerations of micro encapsulation process. Discuss in detail the micro encapsulation by coacervation phase separation and Air suspenaion method.

4. (a) Describe the technique of gaseous sterilization. What are the merits and demerits of this process?

(b) Explain the design of an aspetic room. How is the aspetic condition of the room assessed?

5. Describe in detail the selection of componenta, production requirements and procedures, evaluation labelling and packaging of parenteral preparations.

6. (a) Discuss about two phase and three phase aerosol system. Give examples of propellant systems. How is the toxicity of a propellant system evaluated?

(b) Discuss about the formulation and evaluation of shampoo.

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[KA 269] OCTOBER 1999

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch I — Pharmaceutics

Paper II — INDUSTRIAL PHARMACY

Time : Three hours Maximum : 100 mark

Answer any FOUR questions.

All questions carry equal marks.

1. (a) Discuss about various material managemen techniques in pharmaceutical industries.

(b) Discuss about various sales forecastin techniques.

2. (a) Discuss the formulation and various problem involved in such formulation of vitamin products.

(b) Discuss about GMP to be followed i parentral industries. Discuss about quality control test for parentral inspections.

3. Discuss about formulations of radi pharmaceuticals. How are radio pharmaceutical handled? Discuss the legal regulations and controls o such formulations.

4. (a) How toxicity of propellant gases in aerosol formulation assessed? How are aerosol ingredients filled and assembled? Discuss quality control test of aerosols.

(b) Give the formulation and evaluation of (i) hair dyes, (ii) nail polish.

5. Discuss in detail various containes and closures. Give the pharmacopolil testing of glass, rubber closures and plastics.

6. (a) Explain the operational details of commercial viscometer to study rheology of N.n– Newtonian system.

(b) How particle size distribution is found out and expressed by using Andreason pipette? Give limitations of such apparatus.

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[KB 269] APRIL 2000

M. Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch I — Pharmaceutics

Paper II — INDUSTRIAL PHARMACY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. (a) Explain the layout for parenteral and tablet manufacturing section of pharmaceutical unit.

(b) Write a short note on materials management in pharmaceutical unit.

2. Write short notes on :

(a) Coulter counter

(b) Good manufacturing practice

(c) Hair dyes

(d) Shampoos.

3. Explain

(a) Quality control test for tablet

(b) Process control during manufacturing injections.

4. (a) Explain product development aspects of hair cream and tooth pastes.

(b) Explain manufacturing and Quality Control tests for aerosols.

5. Write notes on :

(a) Rational drug combinations.

(b) Accelerated stability studies.

6. (a) Explain how radio pharmaceuticals are manufactured and packed with examples.

(b) Write a short notes on pharmaceutical packaging.

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[KC 269] **OCTOBER 2000**

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch I — Pharmaceutics

Paper II — INDUSTRIAL PHARMACY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Describe the aqueous film coating of tablets. What are the possible defects which can occur and how are they controlled?

2. (a) Describe the importance of rheological factors in the quality control of semisolid formulations.

(b) State the duties and responsibilities of a production Executive in a large scale non-sterile unit.

3. (a) Explain the cold sterilization process and state its applications and limitations.

(b) Draw a sketch of an aseptic room and explain its features. How its asepsis is maintained?

4. (a) How cytotoxic drugs are formulated, stored and distributed?

(b) Write the importance of Accelerated Stability Studies.

5. (a) Discuss the formulation of hair dyes and their evaluation.

(b) Explain the importance of particle size and propellant systems in aerosol formulations

6. Write briefly on :

(a) Multiple Emulsion

(b) Drug Targetting

(c) Process Validation

(d) Quality Assurance.